

**REMARKS**

The above-identified Application has been carefully reviewed with the Office Action of September 10, 2010, the Examiner's comments, and the prior art references cited therein in mind. In response thereto, Applicant submits the foregoing amendments and the following arguments in support of patentability. Favorable reconsideration is hereby respectfully requested.

**Claim Objections**

The Office Action objected to claims 1-5, 8 and 10 because of informalities in claims 1, 2 and 8. As presented above, the informalities in claims 1, 2 and 8 have been corrected in accordance with the suggestions in the Office Action and are now believed to be in proper form.

**Claim Rejections - 35 USC § 102**

The Office Action rejected claims 1-6, 8 and 10 under 35 U.S.C. 102(b) as being anticipated by O'Toole et al (2002/0054597, hereinafter, O'Toole). The Office Action opines that "O'Toole discloses a method for realizing dynamic adjustment of data bandwidth in transmission equipment, comprising adding, by a device for realizing dynamic adjustment of data bandwidth in transmission equipment, a control channel in a trunk link of the transmission equipment for describing occupancy on time slots by a current service (see figure 8, paragraph 0070), and further comprising informing a time slot distribution circuit by CPU of time slots to be occupied by a voice service as voice call begins when a current service is multiplexed to a direction of E1/T1 link (figure 9, paragraphs 003 1-0033); releasing the time slots from data service by the time slot distribution circuit, and distributing to the voice service (paragraph 0032); informing the time slot distribution circuit by the CPU of the time slot having been released by the voice service after voice call finishes (paragraph 0032); and distributing the

time slots to data service by the time slot distribution circuit, whereby dynamic adjustment of data service is implemented (paragraph 0032)." This rejection is respectfully traversed for the following reasons.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. See e.g., *In re Paulsen*, 30 F.3d 1475, 31 USPQ 2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ 2d 1655 (Fed. Cir. 1990).

Claim 1 of the present invention recites:

"A method for realizing dynamic adjustment of data bandwidth in transmission equipment, comprising adding by a device for realizing dynamic adjustment of data bandwidth in transmission equipment a control channel in a trunk link of the transmission equipment for describing occupancy on time slots by a current service, and further comprising

- informing a time slot distribution circuit by CPU of time slots to be occupied by a voice service as voice call begins when the current service is multiplexed to a direction of E1/T1 link;
- releasing the time slots from data service by the time slot distribution circuit, and distributing to the voice service;
- informing the time slot distribution circuit by the CPU of the time slot having been released by the voice service after voice call finishes; and
- distributing the time slots to data service by the time slot distribution circuit, whereby dynamic adjustment of data service is implemented."

It can be seen that claim 1 of the present invention uses a **control channel** that is added in a trunk link of the transmission equipment to describe occupancy on time slots by voice service and data service. Hence, according to claim 1 of the present invention, when voice service and data service are transmitted in the trunk link, information of the occupancy on time slots by the voice service and data service is transmitted in the control channel of the trunk link at the same time, such that the receiver can correctly acquire the voice service and data service according to the occupancy information transmitted along. As such, if occupancy on the time slots by the voice service and data service is changed, the voice service and data service

that follow the new occupancy format can be transmitted immediately along with the new occupancy information, **without any delay**.

With reference to O'Toole, it discloses a Digital-Subscriber Line (DSL) modem that dynamically allocates bandwidth among one or more voice calls and unchannelized data (see, e.g., abstract of O'Toole). However, the dynamic allocation of bandwidth among the voice calls and unchannelized data in O'Toole is **not implemented by a control channel** as recited in claim 1 of the present invention.

In particular, O'Toole discloses "*A **current-format storage** is coupled to control the formatter. It stores a current allocation of the timeslots*" (see, e.g., paragraph [0030] of O'Toole), and O'Toole further discloses "*When a channel needs to be added or removed for voice calls, the new format of time-slot bits are generated and loaded into **next-format register 32 in CPE modem 30***" (see, e.g., paragraph [0074] and figure 9 of O'Toole). It can be seen that information of the allocation of timeslots, including both the current-format and the next-format in O'Toole, has to be **stored** in order that the actual allocation of the timeslots for voice calls and user data can be implemented during transmission. In other words, transmission and reception of the voice and data in O'Toole is based on timeslot allocation information stored locally (also shown in figure 9 of O'Toole), instead of the allocation information transmitted along with the voice and data, such as the allocation information transmitted in a control channel of the trunk link as recited in claim 1 of the present invention. Consequently, there is at least **one frame's delay** between determination of the allocation and actual implementation of the allocation in O'Toole. For example, "The allocations are determined in the preceding superframe, but are not performed until the next superframe begins" (see, e.g., paragraph [0069] of O'Toole). Thus compared with claim 1 of the present invention, the scheme disclosed in O'Toole is more complex to implement and requires a delay of at least one frame for a change of bandwidth.

From the above analysis it can be seen that the scheme for realizing dynamic adjustment of data bandwidth in claim 1 of the present invention is essentially different from that in O'Toole, and at least the features "adding, by a device for realizing dynamic adjustment of data bandwidth in transmission equipment a control channel in a trunk link of the transmission equipment for describing occupancy on time slots by a current service" in claim 1 are not disclosed or taught by O'Toole.

Therefore, Applicants respectfully submit that claim 1 of the present application is not anticipated by O'Toole, thus claim 1 and the claims dependent thereon are in condition for allowance.

Further, claim 1 of the present invention is not obvious in view of the cited prior art.

As analyzed above, claim 1 of the present invention includes at least the following distinguishing technical features from O'Toole:

"adding by a device for realizing dynamic adjustment of data bandwidth in transmission equipment a control channel in a trunk link of the transmission equipment for describing occupancy on time slots by a current service".

By the above distinguishing technical features, claim 1 of the present invention solves a technical problem of how to implement dynamic adjustment of data bandwidth more conveniently and efficiently.

The distinguishing technical features of claim 1 are not common general knowledge in the art.

Therefore, there is no teaching in the prior art as a whole that would have prompted the person skilled in the art, faced with the above technical problem, to modify or adapt O'Toole while taking account of that teaching, thereby arriving at the technical scheme of claim 1 with the above distinguishing technical features. So the technical scheme seeking protection in claim 1 of the present invention is non-obvious to the person skilled in the art.

Therefore, Applicants respectfully submit that claim 1 of the present invention also is not

obvious in view of the cited prior art.

Claims 2-5 and 10 are dependent upon claim 1; as claim 1 is not anticipated or obvious under 35 U.S.C. 102 and 103, claims 2-5 and 10 are also in condition for allowance.

Claim 6 defines a device for realizing dynamic adjustment of data bandwidth in transmission equipment, and recites, among other features, "the control word process circuit is designed to complete extraction and insertion of control information in control channel of E1/T1 link". Thus for at least the same reasons as those stated above for claim 1, Applicants respectfully submit that claim 6 is not anticipated or obvious in view of the O'Toole reference and is allowable under 35 U.S.C. 102 and 103.

Claim 8 is dependent upon claim 6; as claim 6 is in condition for allowance, claim 8 is also in allowable under 35 U.S.C. 102 and 103.

#### **Claim Rejections - 35 USC § 103**

The Office Action rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over O'Toole in view of Feinberg et al (2004/0001579). The Office Action opines that "O'Toole does not specifically disclose High Level Data Link Control (HDLC), Media Access Control (MAC) frame process circuit to implement processing HDLC link for Ethernet data, checking integrity of MAC frame, comparing and learning MAC addresses. However, these features are well known in the art. Feinberg discloses High Level Data Link Control (HDLC) (see HDLC in paragraphs 001 0,0077), Media Access Control (MAC) (see MAC in paragraph 0070) frame process circuit to implement processing HDLC link for Ethernet data, checking integrity of MAC frame, comparing and learning MAC addresses (paragraphs 0070,0083, 0292,0412). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the features disclosed by Feinberg in the system of O'Toole in order to meet the

design criteria of a particular implementation." This rejection is respectfully traversed for the following reasons.

This rationale is both incomplete and improper in view of the established standards for rejections under 35 U.S.C. § 103.

In this regard, the MPEP section 2141 states:

The Supreme Court in *KSR* reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966))... As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (A) Determining the scope and content of the prior art; and
- (B) Ascertaining the differences between the claimed invention and the prior art; and
- (C) Resolving the level of ordinary skill in the pertinent art.

In addition:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

*Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

As reflected above, the foregoing approach to obviousness determinations was recently confirmed by the United States Supreme Court decision in *KSR INTERNATIONAL CO. V. TELEFLEX INC. ET AL.* 550 U.S. 1, 82 USPQ2d 1385, 1395-97 (2007), where the Court stated:

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in *Hotchkiss v. Greenwood*, 11

How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:

"Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Id.*, at 17–18.

The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." (MPEP 2141). Simply stated, the Office Action has failed to at least (1) ascertain the differences between and prior art and the claims in issue; and (2) resolve the level of ordinary skill in the art. Furthermore, the alleged rationale for combining the references is merely an improper conclusory statement that embodies clear and improper hindsight rationale.

With reference to Feinberg, it relates to systems and methods for transmitting and receiving voice and data in multiple modes, and more particularly to systems and methods for multiple native mode voice and data transmissions and receptions with an integrated communications system having a multi-bus structure, including, for example, a time division multiplexed ("TDM") bus, a packet bus, and a control bus, and multi-protocol framing engines, preferably including subsystem functions such as PBX, voice mail, file server, web server, communications server, telephony server, LAN hub and data router, and method for performing telephony and data functions using the same (see, e.g., paragraph [0001] of Feinberg). In particular, Feinberg discloses systems and methods allowing a broad set of services and functions to co-exist in the same system, and leveraging shared resources while providing a high level interface and intelligence that allows for the shared resources to be dynamically allocated and reallocated (see, e.g., paragraph [0019] of Feinberg). However, Feinberg does

not disclose a control channel for describing occupancy on time slots by a current service, thus Feinberg fails to disclose or teach the above distinguishing technical features of claim 1. Hence, the combination of O'Toole and Feinberg fail to disclose or teach the method of claim 1.

For similar reasons, the combination of O'Toole and Feinberg also fail to disclose or teach the device of claim 6.

Claim 7 is dependent upon claim 6; as claim 6 is in condition for allowance under 35 U.S.C. 102 and 103, claim 7 is also in condition for allowance as a matter of law.



**CONCLUSION**

With the amendments presented herein, it is believed that all the claims remaining in the Application are in condition for allowance. Early and favorable action in this regarding is hereby respectfully requested. Should there be any minor informalities remaining, the Examiner is respectfully requested to call the undersigned attorney so that this case may be passed to issue at an early date.

Respectfully submitted,

  
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